

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of the claims in the application.

Listing of Claims:

Claims 1-567 (Canceled)

568. (New) A kit comprising:

a probe molecule for use in determining the presence of an RNA target in a sample, the probe comprising complementary first and second base regions that form a hybrid containing at least one 2'-O-alkyl ribonucleotide, wherein the probe forms a stable complex with the RNA target but not with a non-targeted nucleic acid under nucleic acid assay conditions, such that the RNA target can be detected, and wherein the complex comprises a single-stranded form of the probe; and

a solid support for immobilizing the RNA target so that unbound nucleic acids and other components of the sample can be removed from the RNA target.

569. (New) The kit of claim 568, wherein the solid support has a magnetic charge.

570. (New) The kit of claim 568 further comprising:

one or more nucleic acid polymerases;

nucleotide triphosphates; and

one or more amplification oligonucleotides, wherein each of said amplification oligonucleotides is, in the presence of a nucleic acid analyte and under amplification conditions, extended to form part of a nucleic acid extension product containing the RNA target or directs the synthesis of a nucleic acid transcription product containing the RNA target.

571. (New) The kit of claim 570, wherein the nucleic acid polymerases and amplification oligonucleotides are sufficient to perform a transcription-based amplification reaction.

572. (New) The kit of claim 568, wherein the first base region contains at least one 2'-O-alkyl ribonucleotide, and wherein the first base region complexes with the RNA target under the nucleic acid assay conditions.

573. (New) The kit of claim 568, wherein that portion of the first base region which hybridizes to the second base region includes a cluster of at least 4 2'-O-alkyl ribonucleotides.

574. (New) The kit of claim 573, wherein the probe includes a conjugate molecule joined to the probe at a site located within the cluster of the first base region.

575. (New) The kit of claim 573, wherein the first base region complexes with the RNA target under the nucleic acid assay conditions.

576. (New) The kit of claim 568, wherein that portion of the first base region which hybridizes to the second base region includes at least one nucleotide which is not a 2'-O-alkyl ribonucleotide.

577. (New) The kit of claim 576, wherein the first base region complexes with the RNA target under the nucleic acid assay conditions.

578. (New) The kit of claim 568, wherein each nucleotide of that portion of the first base region which hybridizes to the second base region is a 2'-O-alkyl ribonucleotide.

579. (New) The kit of claim 578, wherein the first base region complexes with the RNA target under the nucleic acid assay conditions.

580. (New) The kit of claim 568, wherein each nucleotide of the probe is a 2'-O-alkyl ribonucleotide.

581. (New) The kit of claim 568, wherein the first and second base regions form a hybrid that is more stable than a hybrid formed between unmodified forms of the first and second base regions consisting of RNA and/or DNA.

582. (New) The kit of claim 568, wherein the probe includes a conjugate molecule.

583. (New) The kit of claim 568, wherein the first and second base regions are contained within an oligonucleotide that is between 10 and 100 bases in length.

584. (New) The kit of claim 568, wherein the probe comprises a detectable label.

585. (New) The kit of claim 584, wherein the detectable label comprises a fluorescent molecule.

586. (New) The kit of claim 568, wherein the RNA target is ribosomal RNA.

587. (New) The kit of claim 568, wherein the probe forms a stable complex with a region of the RNA target that is folded under the nucleic acid conditions.

588. (New) The kit of claim 587, wherein the probe includes at least 5 contiguous 2'-O-alkyl ribonucleotides.

589. (New) The kit of claim 587, wherein the RNA target is ribosomal RNA.

590. (New) The kit of claim 587, wherein the kit does not include helper probes.

591. (New) The kit of any one of claims 568 to 590, wherein each 2'-O-alkyl ribonucleotide is a 2'-O-methyl ribonucleotide.

592. (New) A reaction mixture comprising:

one or more amplification oligonucleotides in the presence of at least one nucleic acid polymerase and nucleotide triphosphates sufficient to form an RNA amplification product; and

a probe molecule comprising first and second base regions hybridized to each other and having at least one 2'-O-alkyl ribonucleotide, wherein the probe forms a stable and detectable complex with the amplification product but not with non-target nucleic acid, and wherein the complex comprises a single-stranded form of the probe.

593. (New) The reaction mixture of claim 592, wherein the one or more amplification oligonucleotides and the probe are present in the reaction mixture when the amplification reaction is initiated.

594. (New) The reaction mixture of claim 592, wherein the first base region contains at least one 2'-O-alkyl ribonucleotide, and wherein the first base region forms a complex with the amplification product.

595. (New) The reaction mixture of claim 592, wherein that portion of the first base region which hybridizes to the second base region includes a cluster of at least 4 2'-O-alkyl ribonucleotides.

596. (New) The reaction mixture of claim 595, wherein the probe includes a conjugate molecule joined to the probe at a site located within the cluster of the first base region.

597. (New) The reaction mixture of claim 595, wherein the first base region forms a complex with the amplification product.

598. (New) The reaction mixture of claim 592, wherein that portion of the first base region which hybridizes to the second base region includes at least one nucleotide which is not a 2'-O-alkyl ribonucleotide.

599. (New) The reaction mixture of claim 598, wherein the first base region forms a complex with the amplification product.

600. (New) The reaction mixture of claim 592, wherein each nucleotide of that portion of the first base region which hybridizes to the second base region is a 2'-O-alkyl ribonucleotide.

601. (New) The reaction mixture of claim 600, wherein the first base region forms a complex with the amplification product.

602. (New) The reaction mixture of claim 592, wherein each nucleotide of the probe is a 2'-O-alkyl ribonucleotide.

603. (New) The reaction mixture of claim 592, wherein the first and second base regions form a hybrid that is more stable than a hybrid formed between unmodified forms of the first and second base regions consisting of RNA and/or DNA.

604. (New) The reaction mixture of claim 592, wherein the probe includes a conjugate molecule.

605. (New) The reaction mixture of claim 592, wherein the first and second base regions are contained within an oligonucleotide that is between 10 and 100 bases in length.

606. (New) The reaction mixture of claim 592, wherein the probe comprises a detectable label.

607. (New) The reaction mixture of claim 606, wherein the detectable label comprises a fluorescent molecule.

608. (New) The reaction mixture of claim 592, wherein the the amplification product is formed from a ribosomal RNA.

609. (New) The reaction mixture of claim 592, wherein the probe forms a stable complex with a folded region of the amplification product.

610. (New) The reaction mixture of claim 609, wherein the reaction mixture does not include helper probes.

611. (New) The reaction mixture of claim 609, wherein the probe includes at least 5 contiguous 2'-O-alkyl ribonucleotides.

612. (New) The reaction mixture of claim 609, wherein the amplification product is formed from a ribosomal RNA.

613. (New) The reaction mixture of claim 592, wherein the amplification oligonucleotides and the at least one nucleic acid polymerase are sufficient to perform a transcription-based amplification reaction.

614. (New) The reaction mixture of any one of claims 592 to 613, wherein each 2'-O-alkyl ribonucleotide is a 2'-O-methyl ribonucleotide.